

Updates to the underlying HIDI risk-adjusted readmissions methodology will be implemented in HIDI readmission reports starting with FFY 2022 Quarter 4 reports. This document describes the underlying measurement updates and summarizes results of an impact analysis comparing risk-adjusted readmissions performance between the prior and updated methodology during FFY 2022 Quarter 3 for Missouri Hospital Association hospitals and metro Kansas City, KS hospitals.

## Methods:

Measurement updates include the following:

1. Yale macro updates: As part of an ongoing process of software evolution and improvement, CMS/Yale periodically updates SAS macros that are utilized by the HIDI organization for calculation of key metrics. Descriptions of the updates between versions 2017 (prior version used by HIDI) and 2020 (updated version), including additions/exclusions from the cohort definitions, are available through CMS/Yale on [QualityNet](#). Two notable changes include (1) supplementing principal diagnosis codes with revenue center codes to identify admissions and transfers to rehabilitation units for exclusion from the cohorts and readmissions populations, respectively, and (2) adding 13 new ICD 10 diagnosis codes for inclusion in the COPD cohort (e.g., J41.0 Simple chronic bronchitis and J41.1 Mucopurulent chronic bronchitis) and the pneumonia cohort (e.g., aspiration pneumonia and sepsis [not including severe sepsis] that have a secondary diagnosis of pneumonia, including aspiration pneumonia) which resulted in significant increases in volumes for these conditions at most hospitals (details below).
2. HIDI database changes: HIDI moved from sourcing its readmissions measures from a HIDI legacy database to its new HIDI Analytic Workbench implemented in 2021 with improved master patient identification and indexing using Novetta Entity Analytics. The anticipated impact of this update is slightly higher readmission counts due to enhanced capture of readmissions to non-index hospitals.
3. History file changes: Additional changes to the history file were implemented to improve alignment with CMS methodology on risk variable capture. As a result, the prevalence of risk variables has changed, and in many cases, decreased.

To align with HIDI reporting requirements, this impact analysis excluded hospitals with <25 eligible cases for each measure leaving 127 hospitals included in one or more readmissions measures (65 in AMI, 36 in CABG, 113 in COPD, 108 in HF, 119 in pneumonia, 80 in THA/TKA, and 126 in hospital-wide readmissions).

## Results:

- Volume impacts: Volumes of eligible cases increased by > 20% for at least one measure in 101 of 126 hospitals. The volume increase was limited to COPD and pneumonia for most of these hospitals (80 of 101 hospitals) with a median increase of 35% and 48% in volumes for these conditions, respectively. See supporting details in Figure 1.
- Performance impacts: When comparing the readmissions performance prior to and after updating the underlying measurement, HIDI observed modest levels of variation despite large increases in volumes for some conditions. See supporting details in Figures 2-3 on subsequent pages.

## Conclusion:

This analysis demonstrates that the updates to HIDI readmission measures have a modest impact on hospital-level risk-adjusted readmission performance despite increases in volumes for most hospitals across all measures. The updated HIDI risk-adjusted readmission measures are more aligned with current CMS specifications and better capture inpatient hospitalizations and readmissions.

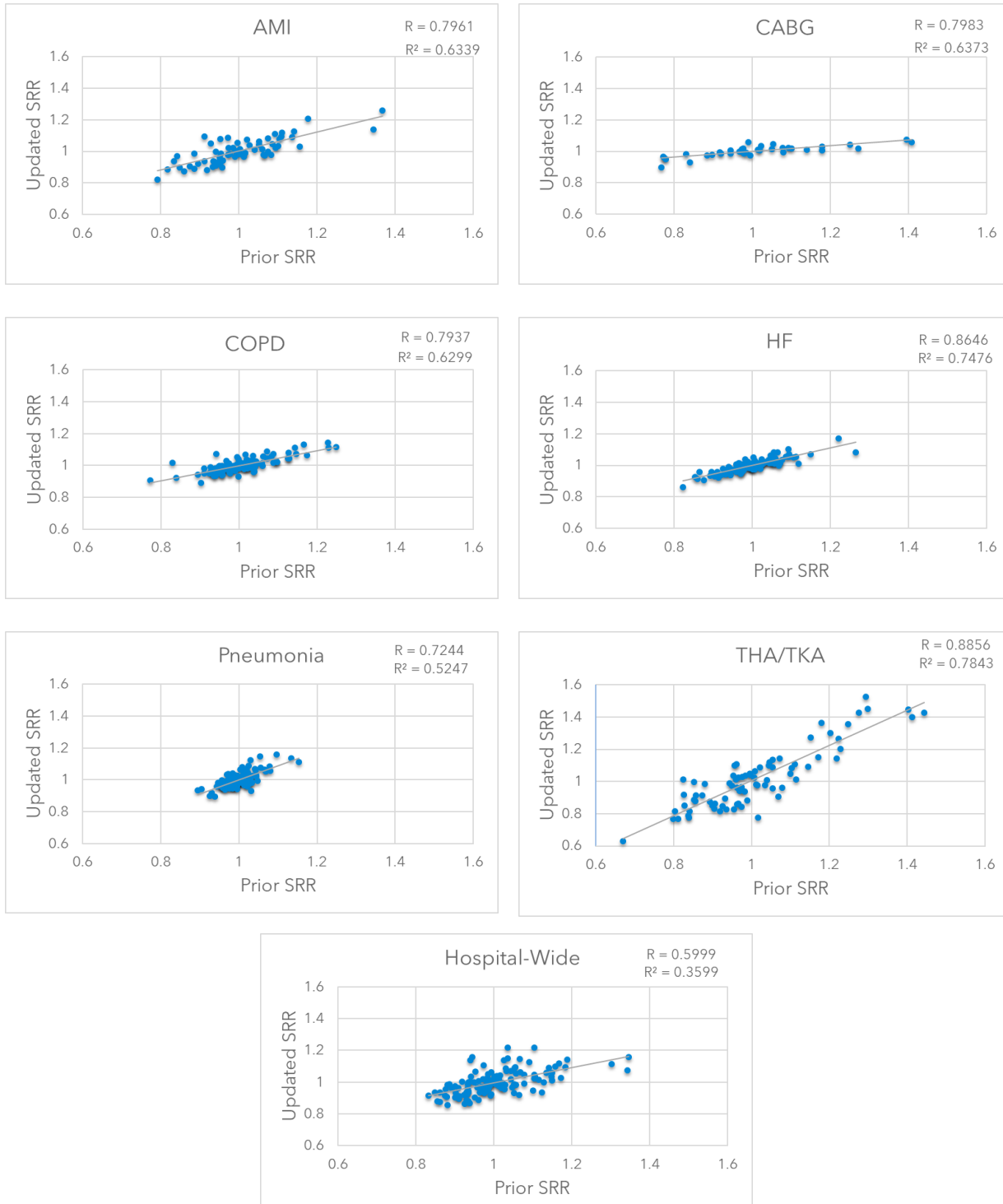
# Hospital Industry Data Institute: Readmissions Measurement Updates

Figure 1: Distribution of the Percent Change in Volume  $[(\text{Updated Volume} - \text{Prior Volume})/\text{Prior Volume} * 100\%]$  for FFY 2022 Quarter 3 among Missouri Hospital Association hospitals and metro Kansas City, KS hospitals



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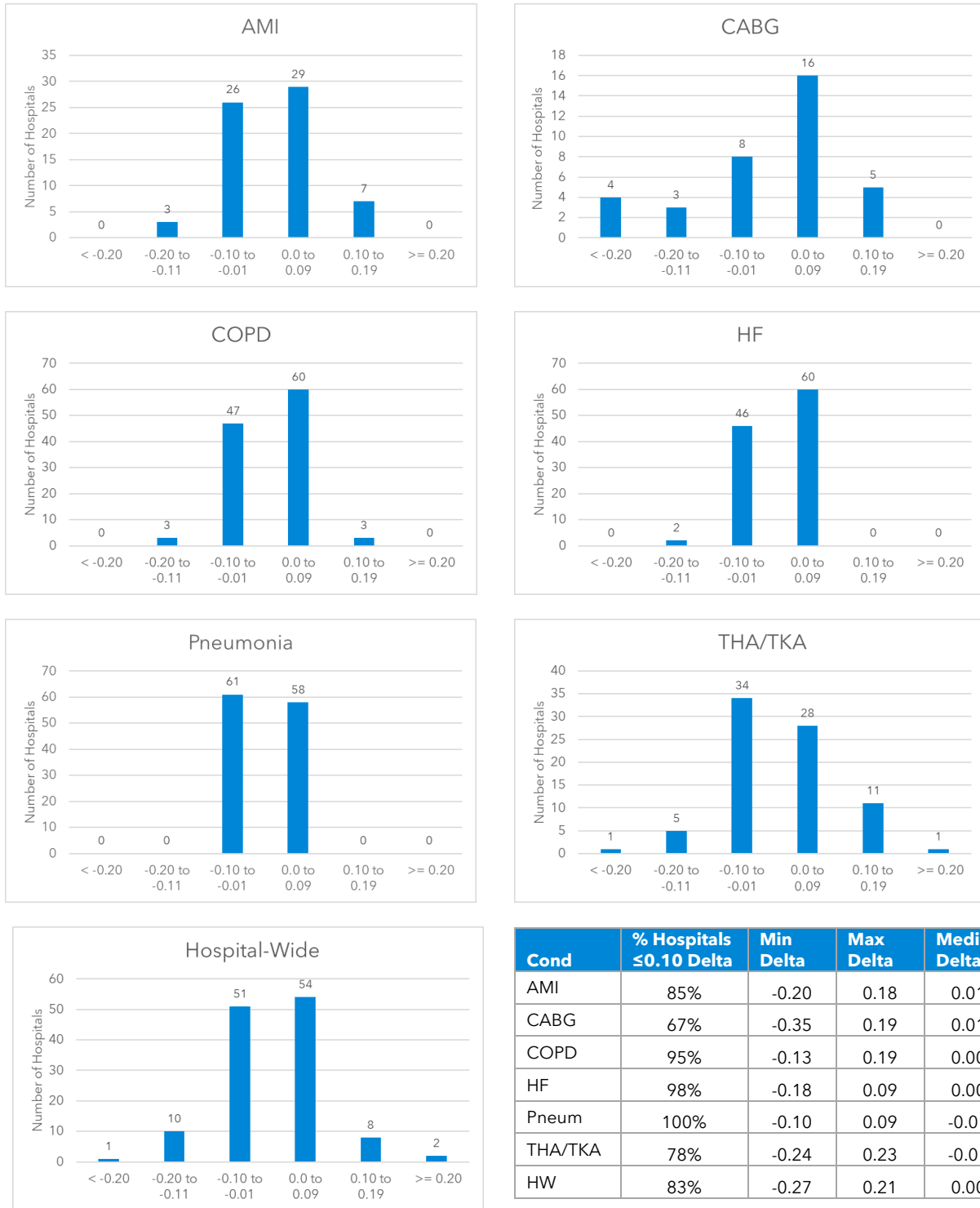
**Figure 2:** Correlation between the Prior and Updated Standardized Readmission Ratios (SRR's) for FFY 2022 Quarter 3 among Missouri Hospital Association hospitals and metro Kansas City, KS hospitals



**Summary:** HIDI observed modest to strong correlation between the prior and updated standardized readmission ratios (SRR's) with Pearson's correlation coefficients (R) ranging from 0.5999 for hospital-wide readmissions to 0.8856 for THA/TKA.

# Hospital Industry Data Institute: Readmissions Measurement Updates

**Figure 3:** Distribution of the Deltas (Updated SRR - Prior SRR) for FFY 2022 Quarter 3 among Missouri Hospital Association hospitals and metro Kansas City, KS hospitals



**Summary:** The delta between the prior and updated SRR's was within 0.10 points for 83% of hospitals for the hospital-wide SRR and ranged between 67% (CABG) and 100% (pneumonia) for condition-specific SRR's.